



## NEW HAMPSHIRE CONSERVATION PARTNERSHIP SUMMARY



New Hampshire is in the midst of an agricultural revolution led in part by a relatively young and highly energetic group of new farmers supported by like-minded consumers interested in food security, supporting local agriculture, and eating healthy, locally grown food. 34% of NH NRCS contracts in 2015 were with beginner, limited resource, or socially disadvantaged farmers. In the last decade, a consistent 20-year decline in cropland was reversed. By 2007, NH had regained nearly half of that farmland lost and now has **4,150 farms, averaging 113 acres, comprising 470,000 total acres.**



NH is also the **second most heavily forested state in the country**, according to the US Forest Service, with more than a century-long history of forest conservation and land protection. Forest products contribute 2 billion dollars annually to NH's economy with travel and tourism being the state's leading industry and second highest employment sector, so maintaining NH's rural look and feel is critical to the state's economy. Residents and visitors support local farmers, sustainable agricultural practices, and demand more locally-produced food. In 2002, the agricultural sector contributed \$930 million in direct spending and an estimated 11,606 jobs.



The health of NH's agricultural lands are inextricably linked to our forests, wetlands, and water supply. The agency's overall goals are supported through program delivery of technical and financial assistance focused on conservation initiatives and outreach efforts. NH's small farms offer highly diverse crops and farm products, and NRCS works with farmers from across the state through the various NRCS programs.



The local foods movement is strong in NH and the use of seasonal high tunnels to extend the growing season has skyrocketed in the past three years thanks to NRCS support. Since FY 2010, \$3,955,829 has been obligated for 334 seasonal high tunnels contracts. NRCS partners are actively working on the development of a food hub as a way to address underserved communities and leverage partnerships. Additionally, the Granite State now has 75 officially registered summer markets and 31 winter markets (NH Dept. of Ag. estimates there are many more unofficial markets), a 625% increase in farmers markets since 1994. Because **NH is growing twice as fast as other New England States**, supporting food security through physical and social infrastructure is critical.

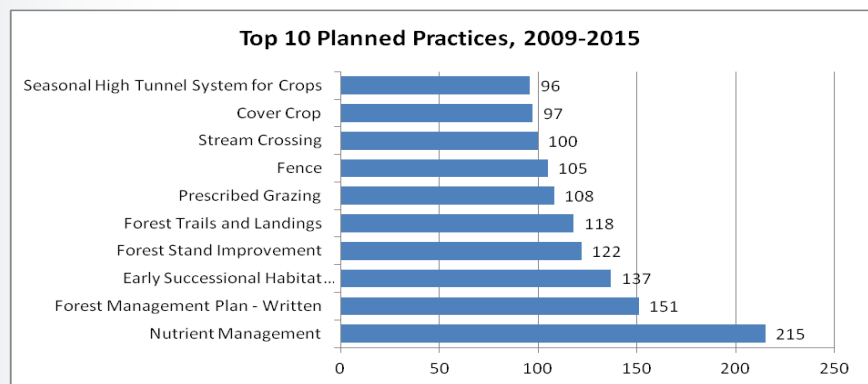
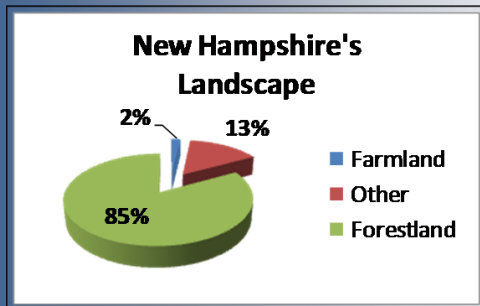
Conservation is vital to NH, a state that relies on healthy natural resources to support travel and tourism, a vibrant forest-based industry, a nurturing quality of life, and a thriving agricultural sector. From enhancing New England Cottontail habitat, to harnessing on-farm energy, NRCS is, and has been, a driving force in bringing partners together for conservation.



## NEW HAMPSHIRE SUMMARY

### NH NRCS

- 51 Full Time Employees
- 7 Field Offices and 1 State Office



- NH is **44<sup>th</sup> in land area, 41<sup>st</sup> in population** (1,318,194 as of 2011), and is growing twice as fast as other New England States.
- NH is the **second most forested state** with **84.9%**, but is **losing about 17,500 acres of forestland annually**.
- The Society for the Protection of New Hampshire's Forests began in 1901, and was the first forest conservation advocacy group in the US.
- The **forest products** industry contributes **2 billion dollars** annually to NH's economy.
- The average NH farm is 113 acres.
- NH is ranked **third in the country** for **direct to consumer food marketing** as share of total agricultural sales.
- Currently, NH has an estimated **four-day supply of food** in an emergency and only produces 6% of the state's total food demand.
- NH lost 1/3 of its most productive cropland between 1997 and 2002.
- **Prime agricultural soils comprise 6%** of the state.
- In 1970, 139 towns were rural, by 2025, there will only be an estimated 72.



United States Department of Agriculture

## New Hampshire NRCS Highlights - 2015



### Drinking Water Quality Improvement Partnership



### Wetland Restoration Agreement



### New England Cottontail Initiative



### Soil Health



### Regional Conservation Partnership Program



# United States Department of Agriculture

## ***Financial Assistance: Easements:***

### ***EQIP (2015):***

- 227 contracts
- \$4,065,540
- 27,140 acres

### ***AMA (2015 YTD):***

- 6 contracts
- \$65,031

### ***CStP (2015 YTD):***

- 12 contracts
- 7,438 acres

### ***ALE Easements (2014):***

- 8 easements
- \$1,224,000
- 350 acres

### ***ALE Easements (2015):***

- 6 easements
- \$1,353,750
- 514 acres

### ***ALE Anticipated Easements (2016):***

- 7 easements
- \$2,368,800
- 834 acres

### ***WRE Easements (2014):***

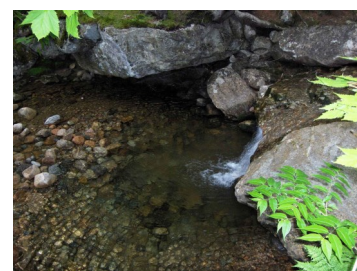
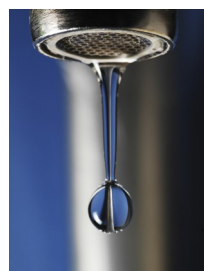
- 6 easements
- \$1,708,770
- 509 acres

### ***WRE Easements (2015):***

- 9 easements
- \$1,712,296
- 959 acres

### ***WRE Easements (2016):***

- Rankings and appraisals not yet complete at this time



## ***Drinking Water Quality Improvement Partnership:***

Carroll, Coos, and Grafton County Conservation Districts

### ***2015 Financial Assistance Contracts:***

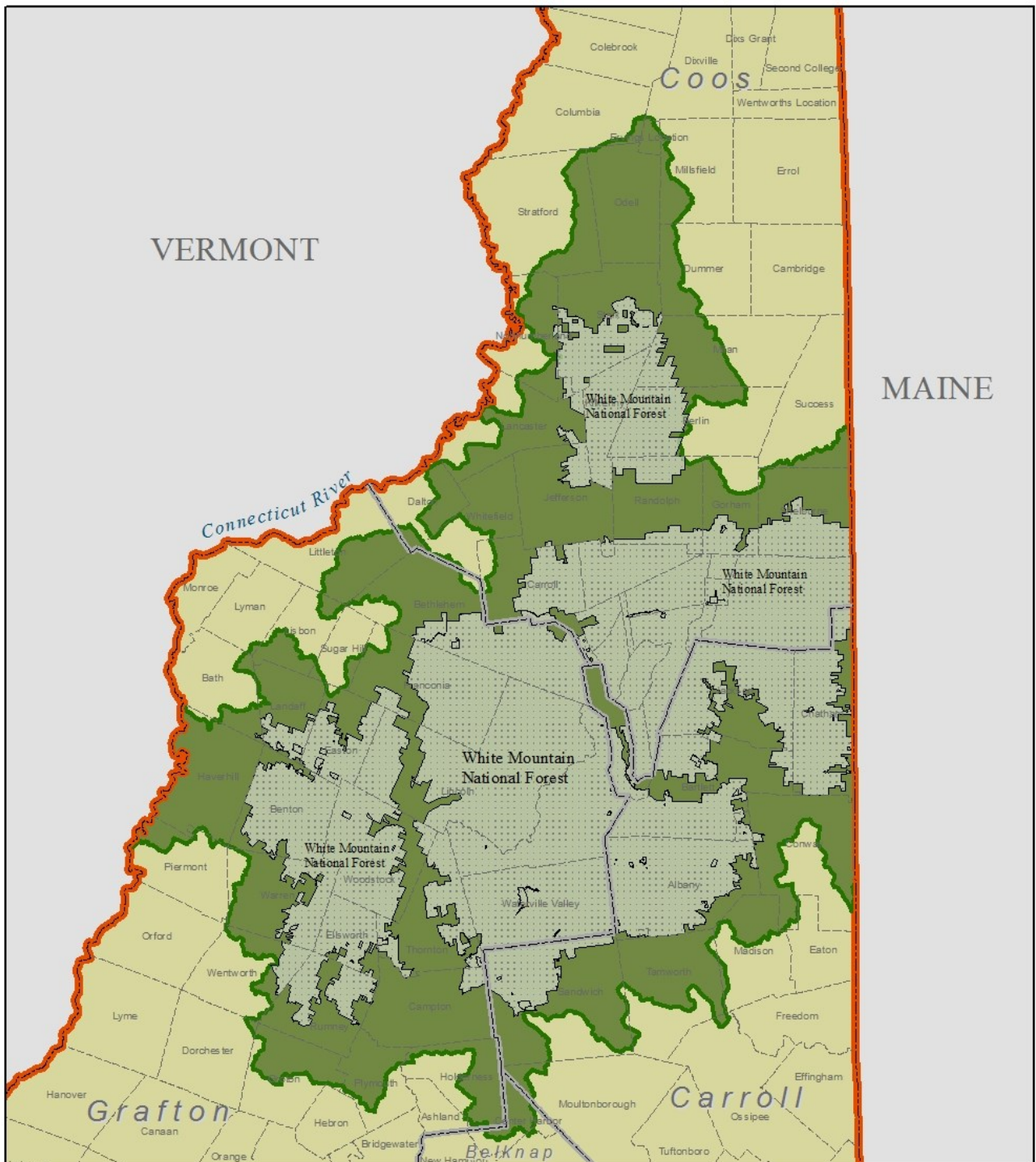
- 37
- \$490,332
- 7,732 acres

### ***2014 & 2015 Easements:***

- 29
- \$5,998,816
- 2,332 acres



Above and to the right: Linda Brownson of the New Hampshire Association of Conservation Districts works with a private landowner who had a major bank failure during hurricane Sandy. This project was funded with Drinking Water Protection Partnership funds and will include stabilizing the bank with native plantings and seeding. The Baker River, shown in this photo, provides important drainage in the White Mountains and is a prime area for land management projects as well as easements.



## New Hampshire Drinking Water Quality Partnership

- Drinking Water Partnership Area
- White Mountain National Forest
- County boundary
- State boundary
- Town line



0 5 10 Miles

A horizontal scale bar with markings for 0, 5, and 10 miles.





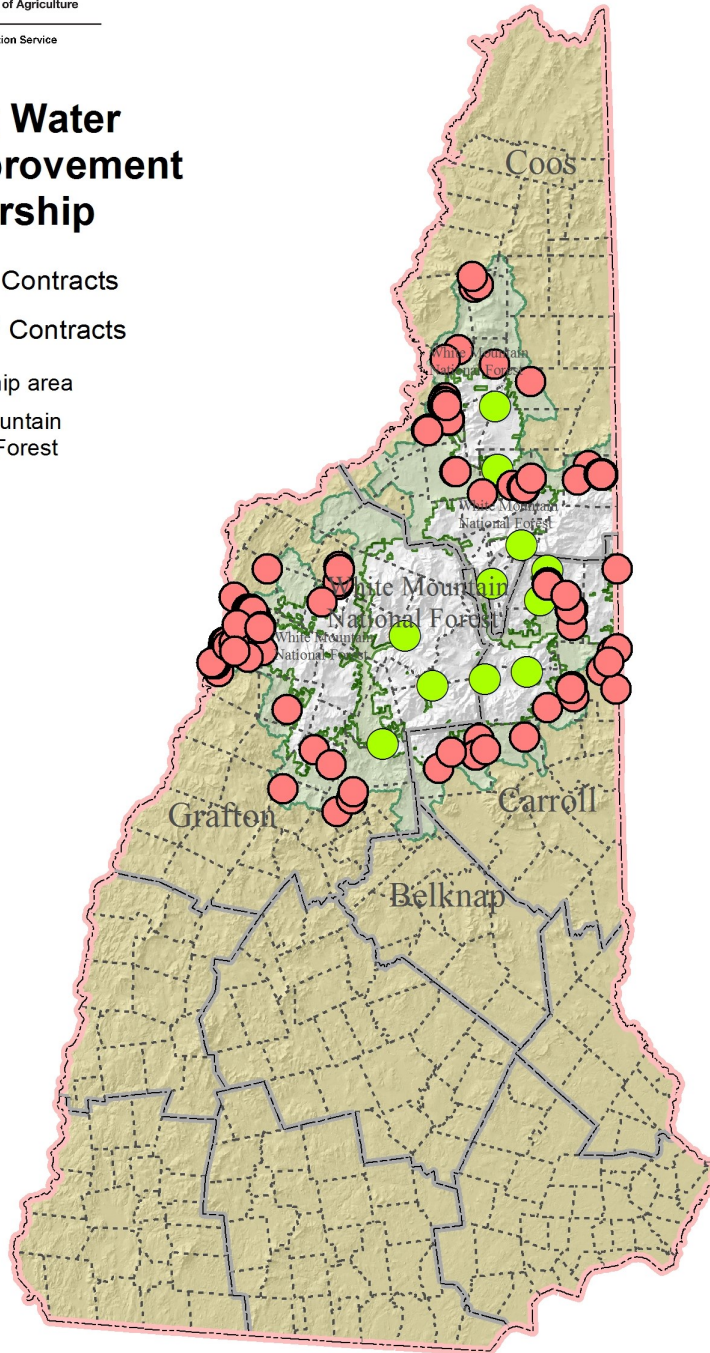
United States Department of Agriculture

Natural Resources Conservation Service



## Drinking Water Quality Improvement Partnership

- NRCS Contracts
- WMNF Contracts
- Partnership area
- White Mountain National Forest
- State line
- County line
- Town line



	NRCS Dollars Obligated	NRCS Contracts	NRCS Acres	Forest Service Dollars	Forest Service Contracts
2014	\$745,057	64	6282	\$250000	11
2015	\$504,550	37	7738		
<b>Totals:</b>	<b>\$1,249,607</b>	<b>101</b>	<b>14020</b>	<b>\$250000</b>	<b>11</b>

# How Do Forests Affect our Drinking Water?

Clean water is one of life's basic necessities. Healthy forests help keep streams clean and water quality high by promoting soils that provide natural filtration and vegetative cover that minimizes soil erosion and sediment runoff. Most of Idaho's municipal water systems use water that originates from forestlands, including those managed for wood production. The quality of this source water is among the best in the nation.



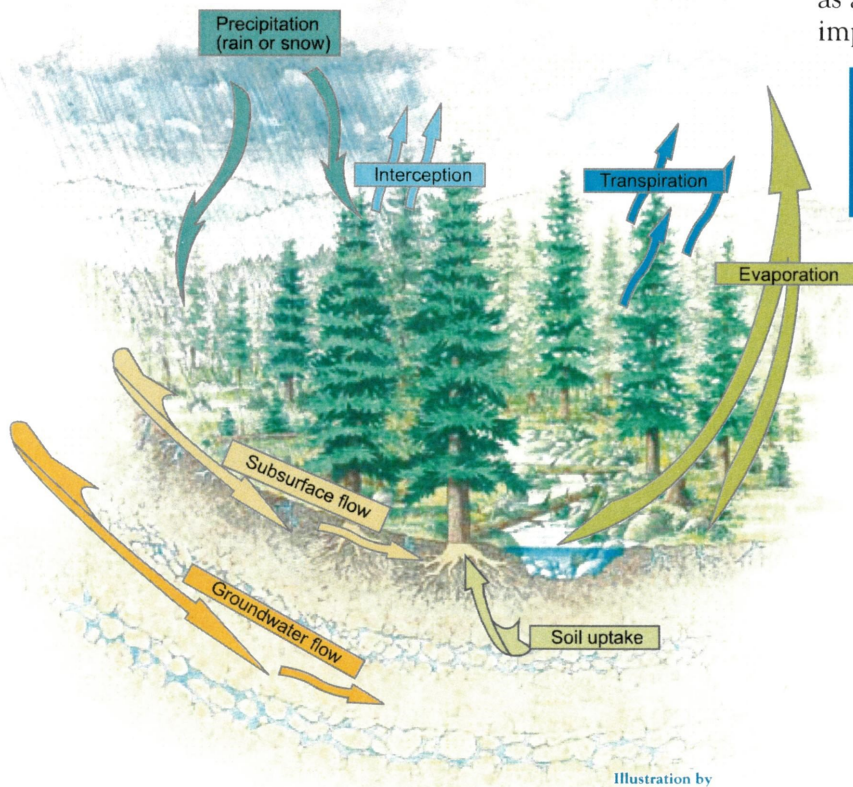
## What is a Watershed?

A watershed is an area of land that absorbs rain and snow and drains it through a network of streams into a river or other major water body. All land in Idaho is within one watershed or another. Watershed boundaries can be generally identified by mountains and ridges that divide the drainage areas for different water bodies.

## How Does the Water Cycle Work?

As the water reaches healthy forest soils, most is absorbed and, over time, is released to nearby streams or groundwater aquifers, filtering it in the process. Most communities in the United States get their water from watersheds where mixed land uses such as agriculture and development may impact source water quality.

## The Forest Water Cycle



**Forest soils act as a natural filtration system resulting in high-quality source water that requires minimal treatment.**

- Interception** Vegetation catches and deflects rain, snow & fog.
- Evaporation** Some water, in the form of vapor, returns to the atmosphere.
- Subsurface flow** Most water seeps into soil and streams.
- Groundwater** Some water seeps deeper, reaching underground aquifers.
- Soil uptake** Roots take in water from the soil.
- Transpiration** Water moves through the tree and evaporates from the surface of leaves or needles.



# United States Department of Agriculture

## USDA, Natural Resources Conservation Service Forest Management Plans

### Forest Management Plans

- Applied (620)
- Planned (316)

SOURCE: USDA NRCS IDEASExtract data, reported as of August, 2015

--- County line  
— Town line

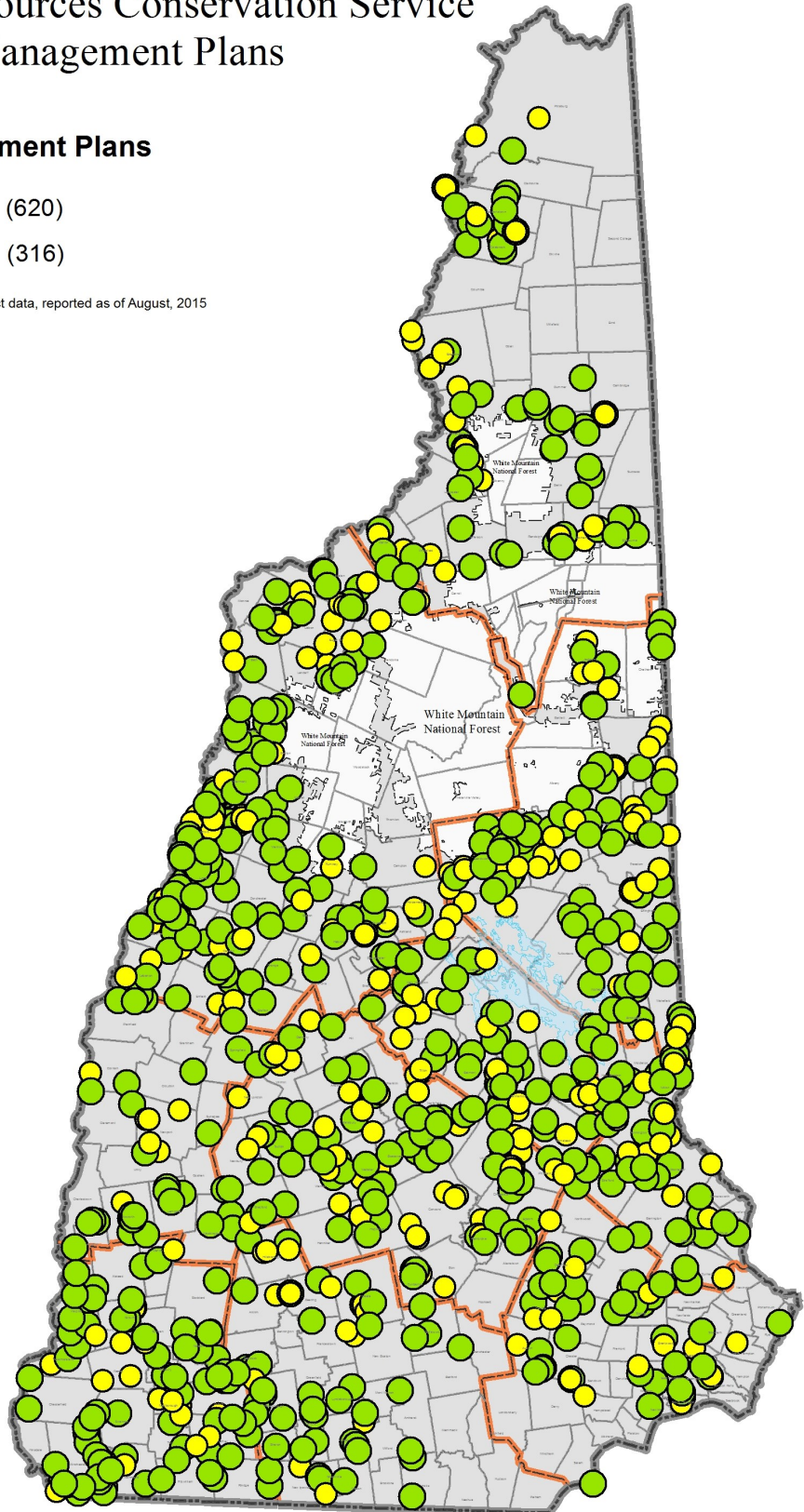


10 5 0 10 20 30 40 50 Miles



United States Department of Agriculture

Natural Resources Conservation Service



# USDA, Natural Resources Conservation Service

## Seasonal High Tunnel for Crops in New Hampshire

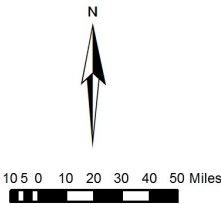
● Planned (196)

● Applied (268)

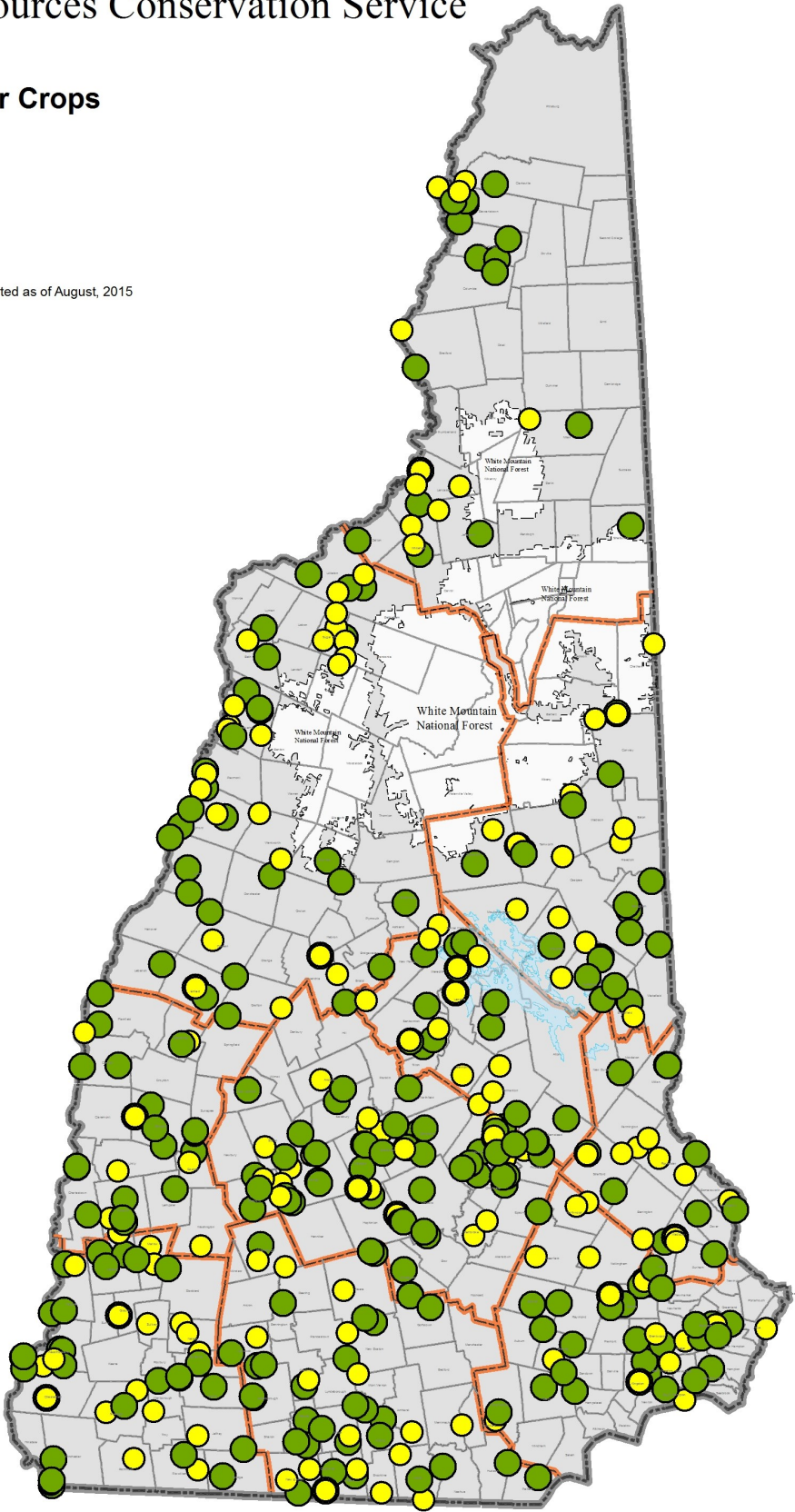
SOURCE: USDA NRCS IDEASExtract data, reported as of August, 2015

--- County line

--- Town line



United States Department of Agriculture





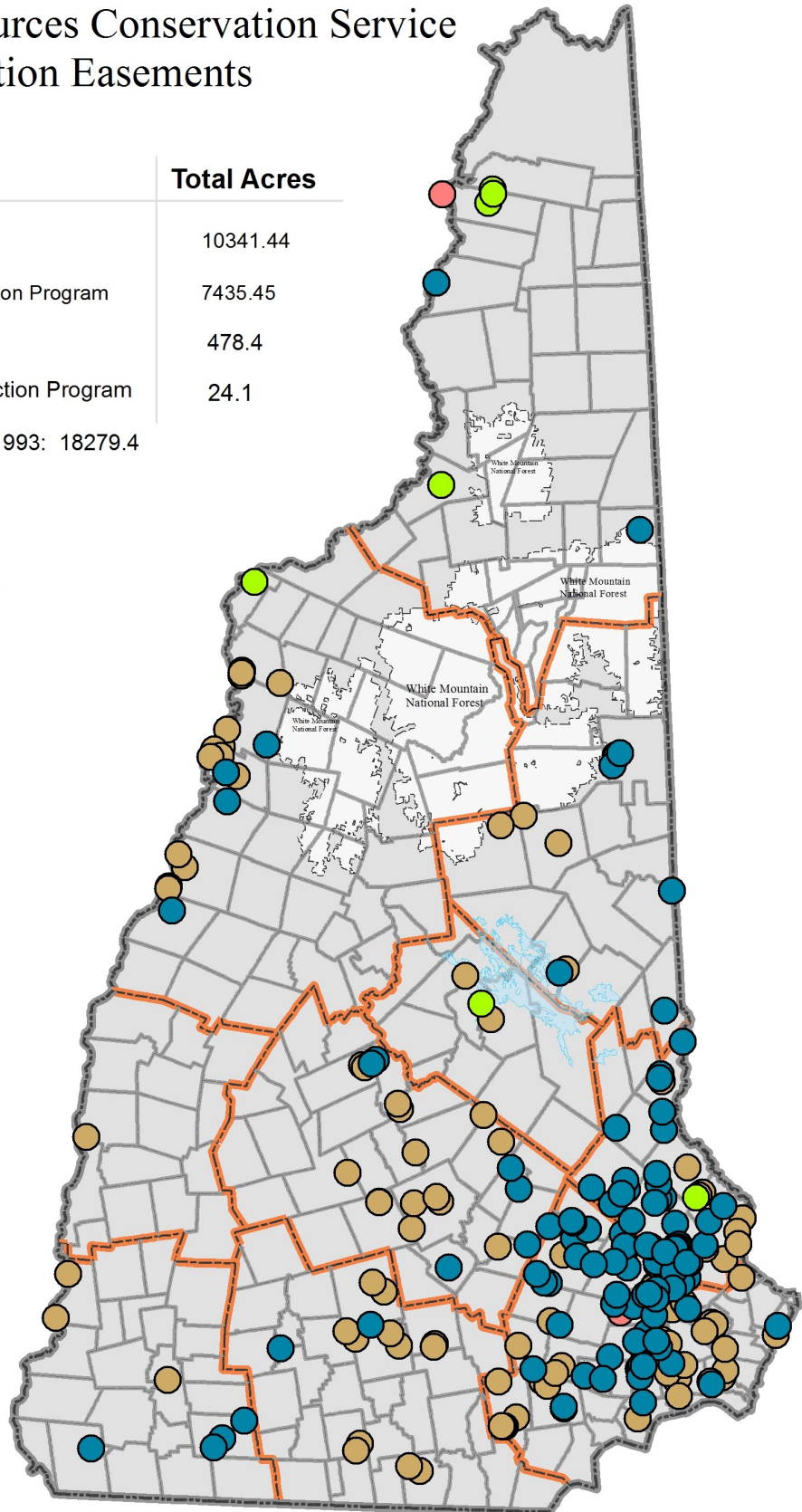
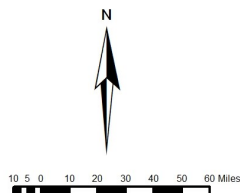
## USDA, Natural Resources Conservation Service Conservation Easements

Easement Program	Total Acres
Wetlands Reserve Program	10341.44
Farm and Ranch Lands Protection Program	7435.45
Grassland Reserve Program	478.4
Emergency Watershed Protection Program	24.1

Total acres conserved since 1993: 18279.4

DATA SOURCE: USDA NEST DATABASE - Sept., 2015

County line  
Town line

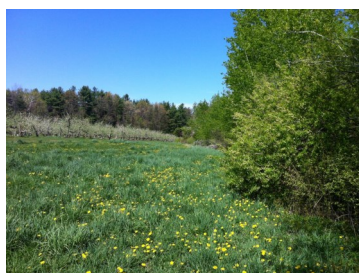




## ***Wetland Restoration Partnership Agreement:***

Rockingham County Conservation District and West Environmental Services

- RCCD and WES provides WRP restoration implementation services, under competitively bid Agreements, to coordinate with landowners, develop RFPs and obtain contractor proposals, assist with contractor selection, and permitting. This agreement has dramatically improved capacity for implementation and allowed additional practices for stream restoration and forest land regeneration and enhancement.
- Wetland restoration was completed on 2,828 acres in 2014 and 899 acres in 2015. Also in 2015, further wetland enhancement was completed on 852 acres to control invasive plants and on 823 acres to enhance stream habitat on restored easements (restoration completed prior to 2015). An additional 2,000 easement acres will be enhanced with stream habitat improvement in 2016. In addition, detailed forest inventories and management prescriptions were completed on 1,564 acres out of a total of 3453 acres identified for management to restore degraded woodlands.



## ***New England Cottontail Initiative:***

Hillsborough, Merrimack, Rockingham, and Strafford County Conservation Districts

- 3 contracts in 2015 for \$47,460



Dr. Lenny Lord, Rockingham County District Manager, develops vegetation estimates in potentially occupied New England Cottontail habitat.

Fiscal Year 2015 New England Cottontail NRCS Financial Assistance (FA) and Active and Completed Contracts through WLFW			
State	Acres	NRCS Investment	Contracts
Connecticut	162	\$281,499	9
Maine	1,108	\$18,654	9
Massachusetts	15	\$24,406	2
New Hampshire	201	\$46,910	3
New York	16	\$27,225	1
Rhode Island	519	\$52,339	6
<b>Total</b>	<b>2,021</b>	<b>\$451,033</b>	<b>30</b>


Data source: NRCS Resource Economics, Analysis and Policy Division, October 2015.



# United States Department of Agriculture

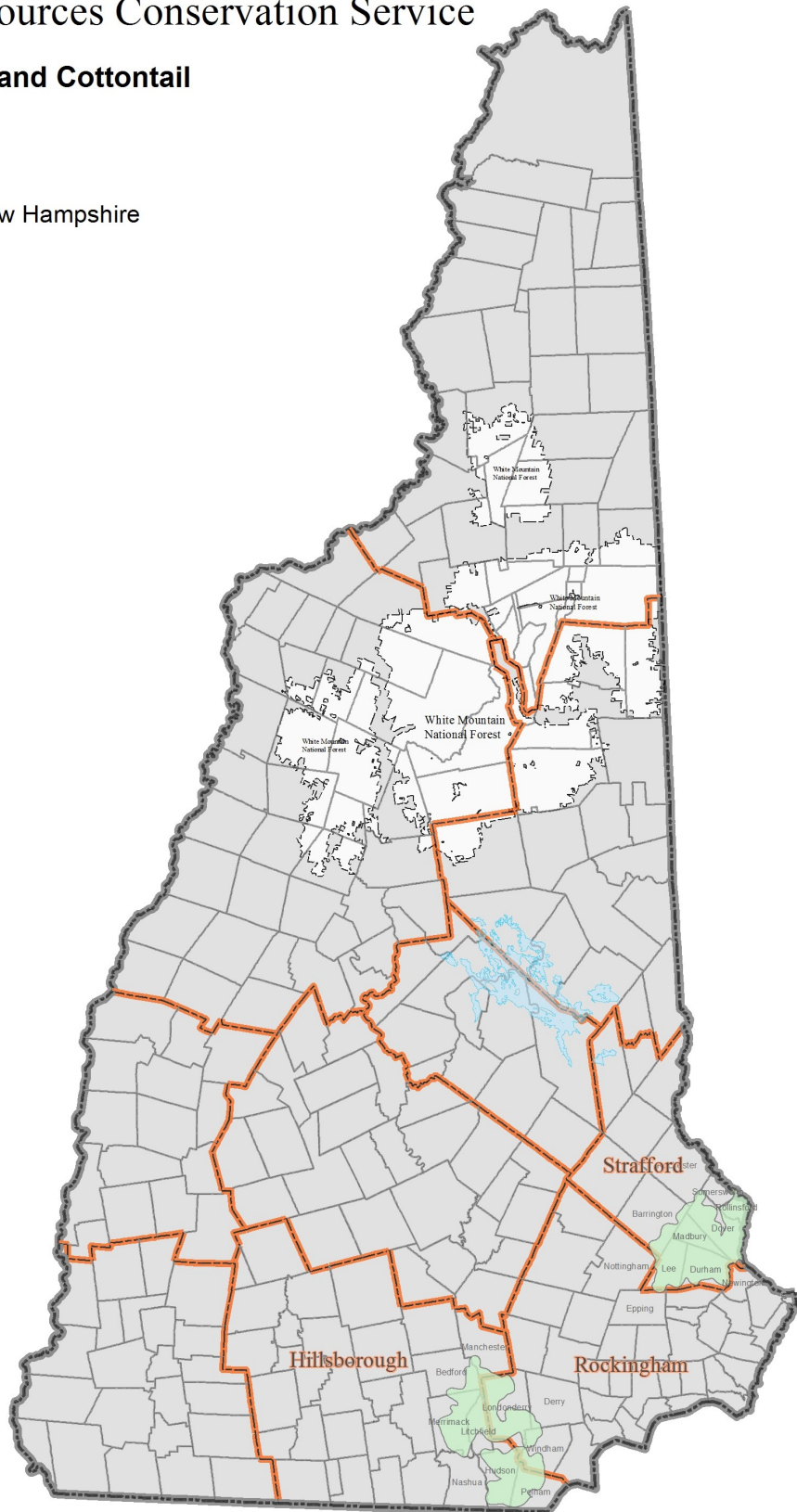
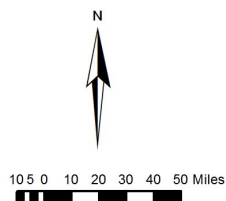
## USDA, Natural Resources Conservation Service

### New England Cottontail

 Focal Area in New Hampshire

 County line

 Town line



United States Department of Agriculture



## New Hampshire Celebrates 2015 International Year of Soils (IYS)

On April 14, 2015 NRCS hosted **Soil Matters: New Hampshire Soils Conference**. The diverse audience of well over 80 people learned about a wide range of soil activities, information and data. NRCS received input on priorities for future work from attendees.

### Speaker and Attendees included representatives from:

Local soils and conservation organizations: Society of Soil Scientists of Northern New England, New Hampshire Association Natural Resource Scientists, Conservation Districts, Land Trusts, Nature Conservancy, Audubon and Society for Protection of NH Forests, Federal & State Agencies and Universities: University of New Hampshire, NH Department of Agriculture, Department of Environmental Services, NH Geological Survey, NH Agricultural Experiment Station and US Forest Service.

**Soil Health** remains a high priority for NRCS staff and interest is growing with our partners and producers. In support of this important initiative, NRCS and local Conservation Districts have hosted workshops, demonstrations and other education and outreach events to educate conservation partners and encourage producers and local gardeners to adopt conservation practices to improve soils health with additional benefits of improving plant productivity, water quality and air quality. Simple changes in management practices offer significant benefits to growers making their operations more resilient to temperature and moisture extremes. One of the biggest successes in 2015 was the increase in adoption of aerial seeding cover crops allowing the working plant cover to have a longer growing season to enhance soil health benefits.

Additional efforts to promote better understanding of soils and celebrate the IYS include:

- Working with local schools on Soil Judging and Envirothon contests
- Monthly Soil Themed stories in NH NRCS newsletter
- Working with Conservation Districts to update Locally Important Farmland Soils
- Presentations at local workshops on erosion control, wetlands, water quality and accessing current soils information

**While 2015 is the official IYS, in NH we see it as the kick-off event for celebrating soil every year!**



## United States Department of Agriculture



### NRCS helps with aerial cover crop seeding.

This year the NRCS helped New Hampshire farmers seed cover crops on more than 1,150 acres using a helicopter. Cover crops were flown on eleven farms located in Grafton, Hillsborough, Merrimack, Rockingham, Sullivan, and Strafford counties during the month of August. Farmers chose either winter rye at 2 bushels per acre or a Soil Health mix of triticale, clover, and radish at 85 pounds/acre.

Aerial seeding used to be done decades ago in the state as a way to get a cover crop established when corn is harvested late in the fall. From mid-August to mid-September, seed is broadcast into the standing corn before it is harvested. The seed germinates and grows slowly until the corn is harvested. After corn harvest, the flush of light allows the cover crop to grow rapidly and get established before cold temperatures set in.

Early observations indicate that aerial seeding can be used effectively in NH. Some seed may not germinate well in very wet or compacted areas. A very late corn harvest and a lot of wheel traffic also may impact the success of the cover crop. After corn harvest it often takes a week or two for the cover crop to bounce back, but once it has some favorable weather, the growth rate is surprisingly good.



Cover cropping is a key practice that helps prevent erosion and improve soil health. NH NRCS plans to offer assistance with aerial seeding in future years, and additional helicopter companies will help provide this service in 2015.



## Regional Conservation Partnership Program:

### New Hampshire's Priorities:

- Aquatic Organism Passage
- At-Risk Species Habitat
- Water Quality: Protection of our surface waters from nutrients and sediments.
- Soil Health



The partnership with The Nature Conservancy will use up to \$500,000 in RCPP funding to address two fundamental and closely related natural resource concerns in coastal New Hampshire: the loss/conversion of undeveloped farmland, and degradation of water quality in coastal rivers and estuaries. The New Hampshire Coastal Watershed Regional Conservation Partnership Program will coordinate the development and implementation of a comprehensive program with a key focus on: (1) protection of significant farmland; (2) promotion and implementation of farm management conservation practices to address water quality, soil health, and wildlife habitat resource needs; and, (3) in-water restoration to improve water quality and estuary habitat.



*L to R: Simon Thomson of Senator Ayotte's office, Sue Knight, NRCS Easement Specialist, Rick Ellsmore, State Conservationist, Mark Zankel, TNC, Sarah Holmes of Senator Shaheen's office*



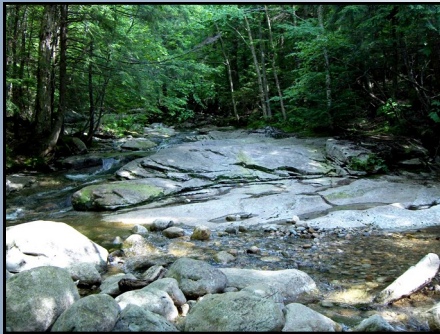
The partnership with the Tin Mountain Conservation Center will use up to \$300,000 in RCPP funding to accomplish a wide diversity of agricultural and natural resource goals in New Hampshire by addressing resource concerns on private forest lands in Carroll and southern Coos Counties through restoration and/or protection. For each ecological resource, proposed work will assess ecological condition and function, rank the severity of impairments, implement conservation practices in order of priority, and monitor the efficacy of practices. Forest management plans will be the vehicle under which inventory, assessment, and implementation will be achieved. A coordinated approach that develops forest management plans and prescribes multiple practices for each landowner will provide the greatest return on investment along with education and outreach to private forest landowners.



*L to R: Nels Liljedahl, District Conservationist, Simon Thomson of Senator Ayotte's office, Rick Ellsmore, State Conservationist, Mike Cline, Tin Mountain, Sarah Holmes of Senator Shaheen's office*



# NEW HAMPSHIRE RESOURCE CONCERNS



## PRIORITY 1 – WATER QUALITY – NUTRIENTS ON HEADQUARTERS, CROPLAND AND PASTURE

**Summary:** Reduction of non-point source nutrient pollution from livestock operations is the top priority for EQIP. Excess nutrients (N and P) from manure and compost contribute to water quality degradation in several NH watersheds listed as EPA 303D impaired for nutrients. The majority of the funds will be used for expensive practices on the headquarters area, but more acres will be treated on cropland and pasture.

**Practices:** CNMP, Nutrient Management, Waste Storage Facility, Compost Facility, Roof Runoff Structure, Heavy Use Area Protection, Waste Treatment



## PRIORITY 2 – PLANT CONDITION – STRUCTURE/COMPOSITION AND PEST MANAGEMENT ON FORESTLAND

**Summary:** The predominant land-cover type in NH is forest, much of it in small to medium-sized lots that have not been well managed and are infested with non-native invasive species. Educational efforts by several conservation partners (UNHCE, The Nature Conservancy, The Society for Protection of NH Forests, NH Fish and Game, and NH Natural Heritage Bureau, among others) have made significant contributions to NRCS efforts to address this resource concern.

**Practices:** Forest Management Plans (CAPs), Forest Stand Improvement, Brush Management, Herbaceous Weed Control, Tree/Shrub Site Prep



## PRIORITY 3 – WATER QUALITY – SEDIMENT; SOIL EROSION AND SOIL HEALTH ON CROPLAND

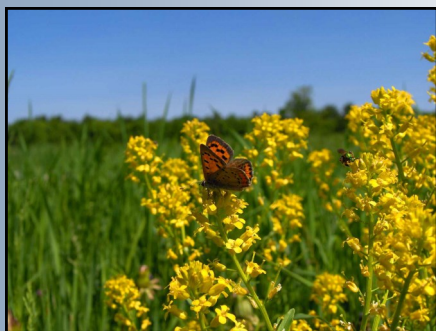
**Summary:** Conservation practices implemented to address soil erosion on cropland also offer significant benefits to water quality (sediment and nutrients) as well as soil quality by increasing soil organic matter. In recent years we have developed a new emphasis (Green Start, UNH CE) on soil health/quality and the interest from producers has been strong and continues to increase. NH's Seasonal High Tunnel pilot program is also included in this priority. Conservation easements are of great interest to our constituents in NH and we work with strong partnerships throughout the state.

**Practices:** Cover Crops, Conservation Cover, Riparian Forest Buffer, Residue Management (No Till), Filter Strip, Forage and Biomass Planting, Seasonal High Tunnels



# NEW HAMPSHIRE RESOURCE CONCERNS

## PRIORITY 4 – WILDLIFE HABITAT DEVELOPMENT AND MANAGEMENT – FOREST (ALL LAND USES)



**Summary:** Key emphasis areas include wetland restoration, developing early successional wildlife habitat for declining species (including the New England Cottontail), improving aquatic organism passage and native brook trout habitat as well as oyster habitat restoration in Great Bay. Educational and implementation efforts by several conservation partners (including UNHCE, WMI, TU, Tin Mountain Conservation Center, NHF&G) have made significant contributions to address this resource concern.

**Practices:** Fish and Wildlife Habitat Plans (CAPs), Fish Passage, Early Successional Habitat Development/Management, Stream Habitat Improvement, Restoration & Management of Declining Habitats.

## PRIORITY 5 – PLANT PRODUCTIVITY, SOIL EROSION AND SOIL HEALTH, WATER QUALITY – SEDIMENT ON PASTURE



**Summary:** There is growing interest by ag producers and NH consumers in locally raised grass-fed meats and livestock products. NH NRCS has partnered with Granite State Graziers, UNH Cooperative Extension, NHDAMF and NHACD (and individual districts) to promote sustainable grazing and pasture management through educational events, and demonstration projects. Poorly managed pastures and grazing systems cause significant erosion, water quality impairments (sediment, nutrients and pathogens), decreased plant productivity (quality and quantity) as well as increased plant pest infestations. In addition, we are requesting funds for GRP to aid in long-term protection of key grassland areas through conservation easements.

**Practices:** Grazing Management Plans (CAPs), Prescribed Grazing, Forage and Biomass Planting, Animal Trails and Walkways, Riparian Forest Buffer, Watering Facility, Fence

## PRIORITY 6 – WATER QUALITY – SEDIMENT, SOIL EROSION AND FLOODING ON HEADQUARTERS



**Summary:** The predominant land-cover type in NH is forest; much of it in small to medium sized lots that have not been well managed and many of the existing roads, trails & landings and stream crossing are eroding at a significant rate causing impairments to surface waters and wetlands. We are working in partnership with US EPA, USFS, and NHDES, among others to protect 3 forested watersheds (Salmon Falls/Great Bay, Contoocook and Merrimack) at-risk for degradation due to significant development pressure (conservation easements) and applicable conservation practices.

**Practices:** Riparian Forest Buffer, Critical Area Planting, Access Control, Stream Crossing, Forest Trails and Landings



# NEW HAMPSHIRE RESOURCE CONCERNS



## PRIORITY 7 – WATER QUALITY – SEDIMENT AND SOIL EROSION ON FORESTLAND

**Summary:** The predominant land-cover type in NH is forest; much of it in small to medium sized lots that have not been well managed and many of the existing roads, trails & landings and stream crossing are eroding at a significant rate causing impairments to surface waters and wetlands. We are working in partnership with US EPA, USFS, and NHDES, among others to protect 3 forested watersheds (Salmon Falls/Great Bay, Contoocook and Merrimack) at-risk for degradation due to significant development pressure. Conservation easements and applicable conservation practices are needed to address this resource concern.

**Practices:** Riparian Forest Buffer, Critical Area Planting, Access Control, Stream Crossing, Forest Trails and Landings



## PRIORITY 8 – PLANT PEST PRESSURE ON CROPLAND, PASTURE AND HEADQUARTERS

**Summary:** Controlling cropland and pasture pests including non-native invasive plant species has become a major challenge for agriculture producers in NH. Helping NH growers reduce pesticide use through IPM techniques has been a goal for NRCS, working in partnership with NHDAMF, UNHCE and others. Use of IPM techniques including cover crops, crop rotations, avoidance (access control, seasonal high tunnels) and better pesticide handling (agricultural handling facilities) in addition to plans which avoid the most sensitive areas (wetlands, highly permeable soils and shallow water tables) offer improved management of pest species while reducing water quality impairments. Key priorities for these funds are to combat bedstraw and yellow rattle infestations in hayland and pastures, as well as non-native invasives on cropland, pasture and HQ areas.

**Practices:** Integrated Pest Management, Conservation Crop Rotation, Brush Management, Herbaceous Weed Control, Forage and Biomass Planting, Cover Crops



## PRIORITY 9 – ENERGY EFFICIENCY AND WATER CONSERVATION (IRRIGATION) – HEADQUARTERS AND CROPLAND

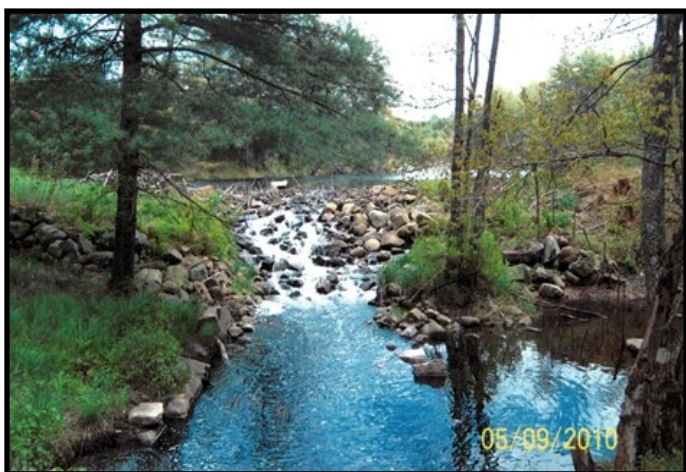
**Summary:** Improving energy efficiency on agricultural operations (including livestock HQ, greenhouses, cropland, and maple syrup production) also conserves water and improves air quality. NH produces a significant amount of maple syrup and there is growing interest in practices to save energy and reduce combustion emission. NH has experienced several dry periods during the past few growing seasons and there is increased interest in irrigation and improved irrigation efficiency.

**Practices:** Ag Energy Management Plan (CAP), Irrigation Water Management Plans, On-farm energy efficiency improvements (Reverse Osmosis, Pan pre-heaters, Greenhouse Energy Screens & Fans), Micro-irrigation



### *Before and After:*

#### **Boyce Pond Dam Removal, Fitzwilliam, NH**



Mary Wons (mother), George Wons (son) and Olesia Pacholok (daughter) have owned the property since 1963 (52 years). They live in Massachusetts and use the property for a vacation home and forest for timber and recreation. Mary is now 101 years old. George owns a store and sandwich shop in Dedham, MA. Olesia works for Harvard University admissions department.

The land has been managed for Timber and consists of 113 acres of forest in the Town of Fitzwilliam, NH. No other farming activities on the tract. The resource concerns were water quality, aquatic organism passage, and invasive plants. The EPA had classified the pond on the 303D impaired waters list for low levels of dissolved oxygen and elevated temperature. NH DES Dam bureau was inspecting the dam periodically. The NH dam safety engineer ordered the Wons to repair or remove the dam. It had begun to fail in the past and was repaired a few times. They could not afford the repairs to bring it into compliance and offered to sell the dam to the Town and abutters for \$1, but no one took them up on the offer. DES Wetlands Bureau started the conversation with NRCS to remove the structure. DES Wetland applied for a 319 grant to assist with permitting and design. Inter-Fluve, Inc. was hired by DES to design and permit the project. SumCo Eco-Contracting was hired to remove the dam and restore the wetland and stream habitat. Cheshire County Conservation District applied for a Mooseplate grant (NH Conservation Grant) to cover the planting and seeding portion of the restoration (around \$20,00). NRCS, under the EQIP NE/NY Forestry Initiative, funded the invasive control and dam removal in the amount of \$147,721. USFWS and NH Fish and Game provided technical assistance.

The site is now fully restored to a natural stream and wetland system. DES continues water quality monitoring and the dissolved oxygen levels are much better and can support aquatic organisms. The Dam bureau has delisted the dam from their database and will no longer perform inspections and charge the \$500 annual registration fee. The aquatic organism passage has been restored and the Wons no longer have the liability of owning the dam.



## United States Department of Agriculture

### *Before and After:*

#### **Corliss Dairy Farm, Northfield, NH**



The Corliss Farm is owned by George Corliss and has been in operation since 1847. He has one full-time employee, Craig Blackey. The Corliss Farm is a dairy farm with 55+/- milkers, 30 dry cows and ~17-20 young stock. They farm approximately 30 acres for silage corn, 30 acres for hay and have 80 acres of pasture. They also own/manage over 400 acres of woodland. Also produced on the farm is firewood, eggs, and maple syrup.

The biggest resource concern the Corliss Farm has faced is manure management. A small covered waste storage facility was constructed over a decade ago, however this only accounted for approximately 2 weeks of storage. By constructing the new waste storage facility, they now have the ability to contain 4+ months of storage. Slightly off-drained soils (wetness) has been a challenge for the farm also; however, many improvements have been made, thus improving the forage production of the soils. Both field drainage and waste storage have the farm more productive and easier to manage.



#### **Paul Levesque, Landowner, Farmington, NH**

This project was funded under WHIP to complete the design for a shallow water impoundment to counteract wildlife habitat degradation that had occurred on the property. The Strafford County Conservation District assisted with planning and permitting because the project had to go through the Ag or Forestry notification process with NHDES which requires the landowner to be a cooperator and the County Conservation District to sign off on the plan and NHDES notification form. Mr. Levesque owns 104 acres of forestland and is now enjoying the increase of wildlife associated with the shallow water development.

## *Before and After:*

### **Sunny Valley Energy Project, Hollis, NH**



The producer is Shane Robinson of Sunny Valley Farms, Hollis, NH. They grow retail and wholesale bedding plants, hanging baskets, perennials, & fall garden mums in over a dozen greenhouses. Shane recently took over the greenhouse operations from Paul Lavoie and has invested significantly in energy efficiency.

Due to the age of the greenhouses and their construction, fuel use to heat the structures was very high. Shane wanted to modernize the greenhouses and reduce the amount of money he spent on fuel oil. Shane is still looking to improve water use and irrigation efficiency as a second phase of modernization.

Shane had an energy audit (AgEMP) completed to NRCS specifications by John Bartok, a greenhouse energy specialist from Connecticut. The plan was completed so we could identify what practices would have the best economic payback and reduce carbon emissions. John was extremely helpful in working through scenarios with our NRCS engineering staff, Shane, and myself. Shane installed practices with a short payback window on his own, including new doors and end-wall insulation, new infrared (IR) plastic, and circulatory fans. He also upgraded the boiler for root zone heating on his own. We assisted, through the EQIP energy initiative to replace the furnaces in the two starter greenhouses used early in the season. Now that we have more energy use data, we may be able to replace several other furnaces as well. The new furnaces operate at 95% efficiency and replaced units nearly 40 years old and <60% efficient.

Shane is doing well and extremely happy with the new furnaces. He'll use them fully next season, but has already seen a large drop in his energy bills and more consistent heating.



## United States Department of Agriculture

### *Before and After:*

#### **Earth Team Volunteers Help NRCS and TNC Restore the Ossipee, NH Pine Barrens**



Pine Barrens before planting



Pine Barrens during planting



Mature Pine Barren Forest – what the site will look like after plants mature

For the third time in four years, the students and faculty of the Pequawket Valley Alternative School joined with Wink Lees from the Nature Conservancy and Ryan Bushnell from the Burnt Meadow Nursery. All the planting done for this project was funded by the Natural Resources Conservation Service (NRCS). Upon completion of the five-day service project, the group planted 1,810 native trees and plants, consisting of 1260 Pitch Pine, 150 Scrub Oak, 100 Lowbush Blueberry, and 300 Blue Stem Grasses. Students and faculty who participated in this project included: instructors Dede Frost and Andy Kearns, along with Andrew Richardson, Zach Holden, Ethan Boyd, Marshall Finniss, Jasmine Ward, Tiffany Allen, Gayle Gilmore, Dustin Bell, Matt Trent and Makayla Pacheco. "Communication and teamwork are really important in these service projects we do," Allen said. "Communication because if you don't communicate then everyone is off doing their own thing. You HAVE to work together or it goes by slow, you don't get as much done, and everyone gets irritated because things are getting re-done or missed. Ryan and Wink showed us how to get the survival rate high again."

In previous years, the Pequawket Valley Alternative School planting projects in the Pine Barrens have had a survival rate as high as 85 percent, which is an extremely high for this type and size of project. Hoping to repeat this success and increase the survival of the plants there was a specific method students were taught to use. The entire site was broken into plots designated for 25, 50 or 75 plants or trees. Students worked in pairs or groups to dig holes, dip bareroot plants in a slurry (promotes water retention and protects the roots), add compost, fill, water and cover with mulch. "For myself, it is fantastic to have the opportunity to get my science credits this way, I learn best hands-on," Ward said.

The Pine Barrens were formed over 10,000 years ago by giant glaciers dragging across the land leaving behind sandy soil with little nutrients. It is home to rare species found nowhere else in New Hampshire, including certain butterflies, moths, and plants. It is the Nature Conservancy's goal to protect those plants and animals and to aid in their survival. Their plan is to restore the area to its natural state, a beautiful forest, in hopes that the site will become self-sufficient. One of the unique properties of the Pine Barrens is its need for fire. The Pitch Pine need the heat from fire to release the seeds from the cone. The tree even has a protective bark that doesn't catch on fire and preserves the tree's core. Some plants have a tap root that goes in the ground and if the tree is burnt down the tap root will stay underground and promote growth.

"It's hard work, but to know you can come back in 10-20 years and see what has become of the work you have done is an amazing feeling," Pacheco said. The students of the Pequawket Valley Alternative school have had plenty of experience working as a team and the program has been combining classroom curriculum with experiential education for 24 years. In addition, the program believes in and requires 40 hours of service based learning for each student per year. This project allowed the students to get community service credit as well as science credit, and was another demonstration of the tremendous benefits the program has to offer to the students and the community.

## ***Success Stories:***

### **Conservation Partners Sign Memorandum of Agreement to Enhance Conservation Programs in New Hampshire**

The United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS), The New Hampshire Association of Conservation Districts (NHACD), The Conservation District Employees Association of New Hampshire (CDEA-NH), the New Hampshire State Conservation Committee (NHSCC), and the North Country Resource Conservation and Development Council, Inc. (North Country RC&D) signed a Memorandum of Agreement to work together to coordinate interagency delivery of conservation assistance to private landowners and others to sustain the health, diversity, and productivity of New Hampshire's natural resources. The purpose of the Agreement is to encourage strong partnerships, as well as to strengthen cooperation among the Parties who share a long-term commitment to ensuring Federal, State, and local conservation programs are implemented effectively and efficiently for the benefit of private landowners and communities. Effectively working together supports local-level and private landowner decision-making and advocacy for conservation planning that will result in sound solutions that are practical and economical and lead to wise use and management of natural resources.

A National Memorandum of Agreement was signed in February by USDA-NRCS Chief Jason Weller, Lee McDaniel, President of the National Association of Conservation Districts, Olga Walter, President of the National Association of Resource Conservation & Development Councils, Shana Joy, President of the National Association of State Conservation Agencies, and Tim Riley, President of the National Conservation District Employees Association. Shortly thereafter, Chief Weller encouraged all 50 states to enter into agreements with their state conservation partners. New Hampshire is the first state in New England to do so.

Jade Nield, USDA-NRCS NH Acting State Conservationist, thanked the partners for their unwavering and sustained commitment to New Hampshire's environment and said "partnerships like these leverage federal dollars to ensure that New Hampshire gets the most out of every penny spent on conservation in the State." Linda Brownson, NH State Conservation Committee Chair and NHACD President said, "Conservation Districts know that developing a growing arena of partnerships is necessary in today's world to help us accomplish our conservation goals, but, at the same time, we also recognize the need to re-establish and strengthen our historic 'core partnership' to bring together the best of our resources for the good of soil and water conservation in New Hampshire". Roger Noonan, NHACD Executive Director, agreed with Ms. Brownson, saying, "This agreement reaffirms the core public and private partnerships that have existed for decades and that continue to conserve and enhance New Hampshire's natural resources, working landscapes, and scenic beauty". Leonard Lord, CDEA-NH President echoed the others' sentiments and added, "This agreement will help ensure the partnership continues to strengthen and grow so that we can continue to put science-based voluntary conservation practices on the ground in the most efficient and effective way possible". Rick DeMark, Executive Director of the North Country RC&D said, "The North Country RC&D Council is proud to be a partner to this important agreement that helps strengthen the already firm partnership between our respective organizations and agencies. The bottom line is, that through this agreement, NH natural resources and the people, communities, and businesses that rely on them will be better served and that benefits everyone".



## *Success Stories:*

### **Conservation Partners Sign Memorandum of Agreement to Enhance Conservation Programs in New Hampshire (Continued)**

Examples of activities the Parties will address include, and are not limited to:

1. Continuing to support the delivery of excellent and innovative service;
2. Strengthening and modernizing conservation delivery to optimize efficiency and effectiveness;
3. Broadening our outreach to existing and new customers and partners;
4. Supporting science-based decision making as close to the resource issue/opportunity as possible;
5. Encouraging a voluntary approach as a the primary means of accomplishing conservation goals; and
6. Using sound approaches to strengthen each Party and its role in the delivery of soil and water conservation across the Nation.

The [USDA-NRCS](#) is the lead conservation agency in the [U.S. Department of Agriculture](#). For over 75 years, USDA-NRCS has worked cooperatively with soil conservationists, technicians, soil scientists, agronomists, engineers, economists, biologists, foresters and other experts to help landowners and land users with conservation. USDA-NRCS delivers technical assistance based on sound science and suited to a customer's specific needs and works closely with local partners. Participation in [NRCS programs](#) is voluntary and financial assistance for estimated costs incurred for conservation practices are available in some cases.

The [New Hampshire Association of Conservation Districts](#) (NHACD), has provided statewide coordination, representation, and leadership for Conservation Districts to conserve, protect, and promote responsible use of New Hampshire's natural resources. NHACD works collaboratively with county districts, Federal, State, and local agencies, nonprofits, and other conservationists as a volunteer, tax-exempt, nonprofit organization. Conservation Districts were organized over 60 years ago in response to devastating soil erosion conditions and to bridge the gap between Federal technicians and private landowners. The first Soil Conservation District in the United States was organized in August 1937 in North Carolina. Forty-five states enacted such laws before the first New Hampshire statewide Soil Conservation District was created in May 1945. To administer the law within New Hampshire, a policy was adopted organizing ten county sub-districts. In August 1955, the law was then amended changing the sub-districts into ten Soil Conservation Districts, one in each county, and made them governmental subdivisions of the state.

The [Conservation District Employees Association of New Hampshire](#) was established on September 22, 1997 to develop, strengthen and promote the Conservation District programs in New Hampshire. The Association consists of full-time and part-time employees of the legally organized 10 New Hampshire County Conservation Districts. Associate membership is available to individuals, agencies, businesses and organizations whose objectives are to promote conservation of NH's natural resources. CDEA-NH is managed by a four-member Board of Directors which is elected by the general membership at the Annual Meeting. Officers include President, Vice-President, Secretary and Treasurer. Terms of office for President and Vice-President is for two years and limited to no more than two consecutive terms.

Since 1946, the [New Hampshire State Conservation Committee](#), an agency of the State of New Hampshire, has provided conservation leadership, guidance, and oversight for the ten county [Conservation Districts](#). The State Conservation Committee (SCC) confirms Conservation District Supervisors; coordinates the Districts' work; maintains a long-range soil and

## Success Stories:

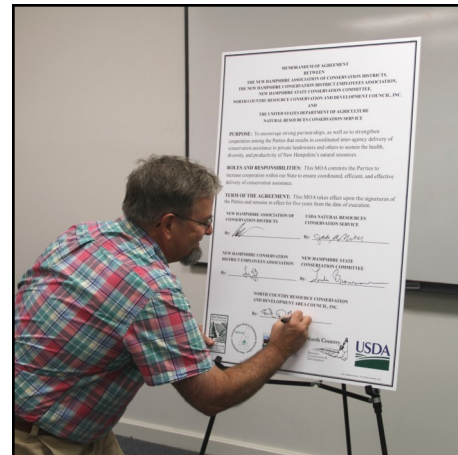
### Conservation Partners Sign Memorandum of Agreement to Enhance Conservation Programs in New Hampshire (Continued)

water conservation plan; and fosters coordination with other natural resource State and Federal agencies, organizations, and the legislature. The SCC receives a portion of the Conservation license Plate (Moose Plate) funds and distributes the funds in grants that support conservation activities.

The mission of [North Country RC&D](#) is to provide project development and management services to NH communities, organizations, and individuals to address natural resource, economic and social needs. The North Country RC&D was established in 1967 to address problems and opportunities in New Hampshire's "North Country," encompassing the counties of Belknap, Carroll, Coos and Grafton.



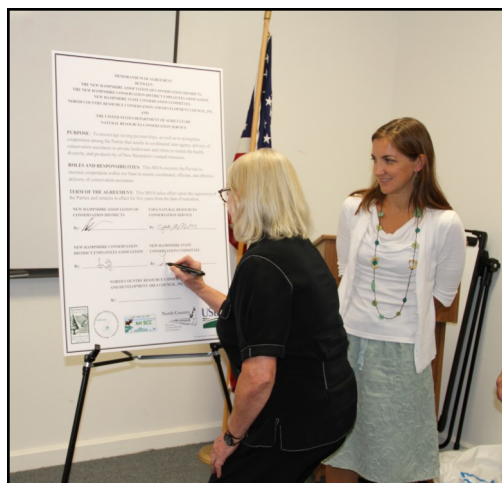
L to R: Roger Noonan, Linda Brownson, Rick DeMark, Jade Nield, Leonard Lord



Rick DeMark Signs Ceremonial Agreement



Roger Noonan Signs Ceremonial Agreement



Linda Brownson Signs Ceremonial Agreement as Jade Nield watches



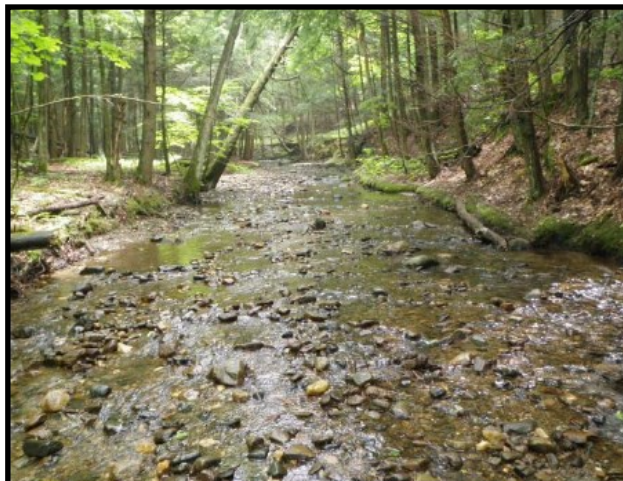
Len Lord Signs Ceremonial Agreement



## *Success Stories:*

### **NRCS partners with Trout Unlimited and NH Fish and Game to improve water quality and fish habitat in Cheshire County's Butler Brook**

This past fall, a 2,107 foot stream channel restoration was completed in Marlow, NH with the help of landowner John Salo, the NRCS, Trout Unlimited, and NH Fish and Game. The 300-acre property has a well-protected forest canopy over the stream. Timber for the project was cut immediately adjacent to the restoration site by Forester, Peter Renzelman, and before the crew arrived, increasing efficiency and safety. Once the timber was cut, the team quickly built the roughly 33 sites over two days. Access to the site was via a wood road which allowed the team to get close to each restoration site. On day one, the group was divided into two teams and leap-frogged their way upstream. The initial goal was to complete 10 to 12 installations per day for a total of 24 sites. Overall, this energetic project team was able to complete close to 20 sites the first day and then 13 more sites on the second.



*A section of stream which lacks woody material and as a result the stream lacks pools, riffles, and cascades.*



NRCS provides financial assistance for estimated costs incurred for conservation practices like placing wood in streams. This practice is important because, in the Northeast, there are fewer old trees in riparian areas that die and fall into streams naturally. Slash laws prohibit loggers from leaving woody biomass in streams or on floodplains within 50 feet of perennial streams. Additionally, culverts and other infrastructure collect wood and are cleaned-out seasonally further reducing the amount of wood in streams and on floodplains. Woody biomass in streams creates several key ecological benefits, which are important for the larger watershed.

## **Environmental Benefits**

### ***Water Quality***

During high flow events, sediments (sand, gravel, silts) and organic matter (twigs, logs, and leaves) are mobilized and moved out of first and second order streams. Without woody material to reduce velocities and retain inorganic and organic materials in these stream segments, they are deposited into larger water bodies and

## ***Success Stories:***

### **NRCS partners with Trout Unlimited and NH Fish and Game to improve water quality and fish habitat in Cheshire County's Butler Brook (Continued)**

wetland systems much lower in the watershed. These deposits, known as siltation, change the depth of water bodies, bury sub-aquatic vegetation, and increase nutrient loading. Upstream, the reverse happens, stream channels become incised from the constant loss of material and lose contact with their floodplains which results in increased velocities and damage to downstream infrastructure and the system itself. The lack of retention of wood, organic material, and sediment results in a reduction in biomass of insects, invertebrates, and fish.



#### ***Fish Habitat***

Wood in streams increases fish populations by providing deeper pools and a greater diversity of habitats which help fish survive during hot summer months and long winters. Cascades and riffles are formed from the stream flowing over logs which increases oxygen content. Wood also provides escape cover, increases gravel bars for spawning, and collects organic matter which increases populations of insects and invertebrates. During drought conditions, first order streams become fragmented and fish are forced to wait for the cooler fall rains, often in a

often in a single pool. Increasing the number of pools in a stream segment greatly increases low-flow holding areas as well as allows fish to overwinter and survive drought conditions. A 10-year study in the Green Mountains assessed the impact of adding four pieces of wood, which were in contact with the water year round, every 100 feet of stream. The results showed increases in trout populations from 2 to 5 times (40 lbs./ acre up to 200 lbs./acre)

#### ***Reduced Flood Intensities***

Incised streams are created when scour in the stream bed deepens the channel and, as a result, the stream loses contact with the floodplain. Log jams in these streams are valuable as they collect sediment on the upstream side and reduce flow velocities. As sediments build up behind log-jams, there is reduced hydrologic capacity at that location allowing flood waters and sediment during high flows to access the floodplain. Intact forested floodplains offer flood water storage and reduce peak discharges while collecting sediments and organic matter.



*Gravel accumulates behind wood in a stream*



## United States Department of Agriculture

### *Success Stories:*

#### **Conservation Districts host pollinator workshops with NRCS help**

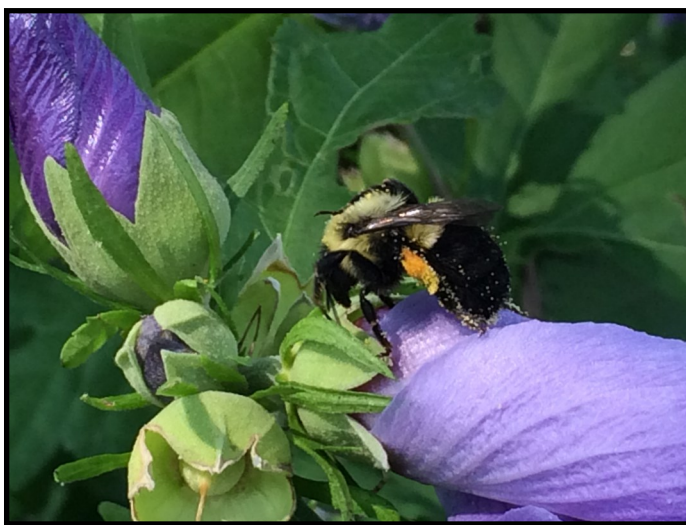


Thanks to an Agreement between the USDA Natural Resources Conservation Service and the New Hampshire Association of Conservation Districts, five pollinator workshops were held by the County Conservation Districts at farms across New Hampshire on May 12th, 13th, and 14th.

Eric Mader of the Xerces Society was the guest speaker at events held in Hillsboro, Cheshire, Grafton, Merrimack, and Rockingham Counties. Eric Mader is an expert on pollinators and has been helping the NRCS and Conservation Districts in

New Hampshire educate people on the importance of pollinators and their habitat for years. During the workshops, demonstrations focused on: integrated pest management, location, size and establishment of pollinator plots, pollinator species, and solarization for site preparation.

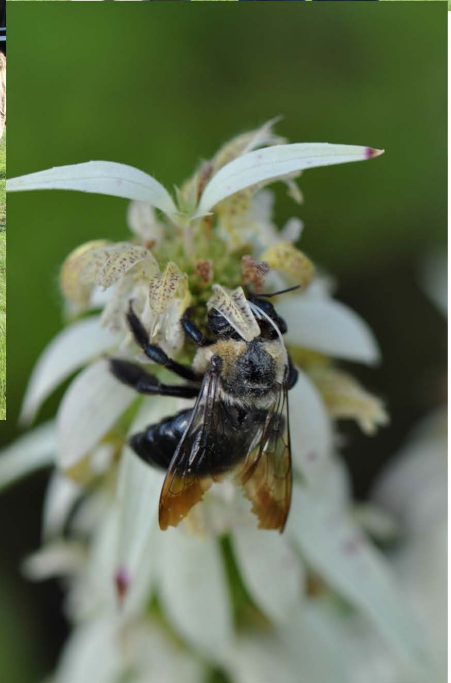
One of every three bites of food we eat is dependent on pollinators, such as bees, butterflies and other critters, that play an enormous role in plant reproduction. Pollinators provide approximately \$20 billion worth of pollination for American crops each year. Unfortunately, many species are seeing declines in population as a result of habitat loss, disease, parasites and over-use of pesticides. NRCS has teamed up with farmers and ranchers across the U.S. to use conservation to aid pollinators while improving agricultural operations. This win-win effort, for pollinators, the environment and agriculture, is made possible by producers who create pollinator habitat in their fields, pastures and forests. Three-fourths of the world's flowering plants and about 35 percent of the world's food crops depend on animal pollinators to reproduce. More than 3,500 species of native bees help increase crop yields. Some scientists estimate that one out of every three bites of food we eat exists because of animal pollinators like bees, butterflies and moths, birds and bats, and beetles and other insects. Pollinators visit flowers in their search for food (nectar and pollen). During a flower visit, a pollinator may accidentally brush against the flower's reproductive parts, unknowingly depositing pollen from a different flower. The plant then uses the pollen to produce a fruit or seed. Many plants cannot reproduce without pollen carried to them by foraging pollinators.







# United States Department of Agriculture



## *Success Stories:*

### **NRCS NH Continues to Assist Refugee Farmers**



NH NRCS has worked with the refugee farmers located in Dunbarton, NH since 2012 when we entered a Cooperative Agreement with the Organization for Refugee and Immigrant Success (ORIS) to fund a high tunnel as a demonstration project that would allow ORIS to teach farming techniques and the benefits of high tunnels. ORIS is an ethnic community-based organization located in Manchester, New Hampshire. Their mission is to aid in the resettlement of refugee and immigrant groups in the state of NH by providing assistance, training, resources, and opportunities that promote self-sufficiency. Over the past five years, ORIS has developed the resources and capabilities to foster the self-sufficiency and integration of new Americans, including the development of an experienced, multinational, and multilingual staff and consultant team. Fresh Start Farms-NH is a collective of refugee and immigrant farmers who are participating in the NASAP program. These New American farmer entrepreneurs represent the Somali-Bantu, Bhutanese, Burundi, and Congolese communities, as well as other ethnic groups. Fresh Start Farms growers sell produce at various farmers' markets, through a Community Supported Agriculture (CSA) initiative, and wholesale to restaurants, colleges, and other organizations and businesses. Although sites are not certified, farmers use organic practices and culturally appropriate growing techniques.

NRCS funded a Conservation Innovation Grant (CIG) grant to install high tunnel water catchment systems with solar pumps to demonstrate how rain water could be captured and used as an irrigation source for the high tunnels. The grant included the translation of instructions, training of the refugee farmers using the system, monitoring & recording needed modifications, and two workshops to share the experiences and lessons learned. Also, four of the refugee farmers signed up for high tunnels on their plots of land at the Dunbarton farm. The farmers each share the high tunnel with one other farmer, so a total of eight farmers are enjoying the benefits of farming in a high tunnel with continued technical and cultural support from NRCS and ORIS. Anthony Munene, former ORIS Farm Manager, and Andrea Bye-Munene, former ORIS Farm Training Coordinator, were integral in the success of this project. They provided training, coordination, and translator services from the application phase through project completion.



## *Success Stories:*

### **NRCS is Helping Improve Water Quality in the Great Bay**



Ray Konisky of UNH stands in front of 800 pounds of surf clam shell being stored at Portsmouth Harbor



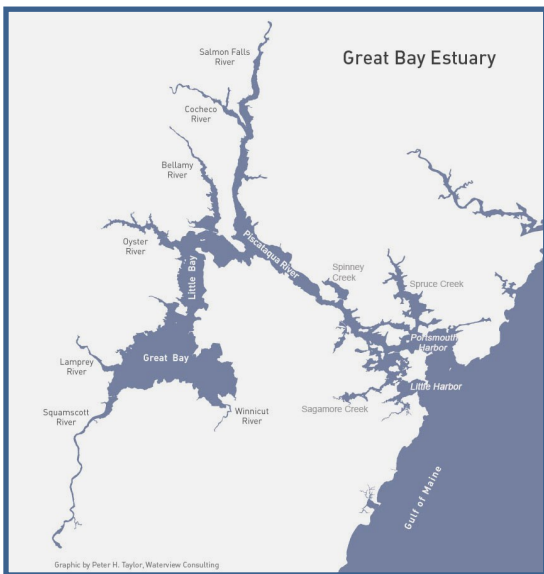
A Reef is Reborn: surf clam shell is dispersed from the barge into the Piscataqua River restoration

### **Every acre of oyster reef restored to Great Bay improves water quality. More oysters means cleaner water.**

When oyster populations were still healthy in 1970, they covered about 900 acres of the Great Bay, and by some estimates were able to filter the estuary's entire volume of water in just 4 days. The oysters in a few reefs that remain today may take close to a year to filter that amount. Over the past decade, the population of New Hampshire's Eastern Oysters has reached historically low levels. Habitat conditions are extremely important to the health and viability of the shellfish. These conditions are affected by upstream activities on adjacent lands, and those waters which empty

into the estuaries and surrounding watersheds. Oysters and other shellfish filter large quantities of water everyday in order to obtain the food and oxygen that they need to survive. When the water contains fertilizers, road runoff sediment, septic bacteria, and other wastewater, these contaminants accumulate in their flesh, impacting survival and making them unsafe to eat. The Natural Resources Conservation Service (NRCS) and several other agencies have come together to make shellfish conservation and restoration a priority. NRCS, The Nature Conservancy (TNC), and The University of New Hampshire are restoring eight acres of wild oyster reefs in Great Bay, which will result in measurable improvements to water quality and lost fish habitat, like winter flounder.

TNC is training citizens around Great Bay to be oyster "nannies", which is a volunteer program that engages citizens who live by or have access to the bay or part of a tidal river to grow oysters in their backyards.



## Success Stories:

### NRCS is Helping Improve Water Quality in the Great Bay (Continued)

**Great Bay** is a tidal estuary located in Strafford and Rockingham counties in eastern New Hampshire. The Great bay occupies over 6,000 acres, not including its several tidal river tributaries. Its outlet is at Hilton Point in Dover, New Hampshire, where waters from the bay flow into the Piscataqua River and proceed southeast to the Atlantic Ocean near Portsmouth. The northern end of the bay, near its outlet, is referred to as Little Bay.

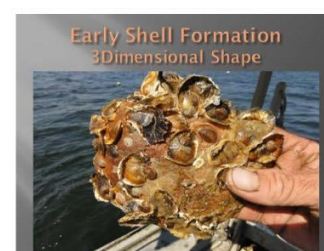
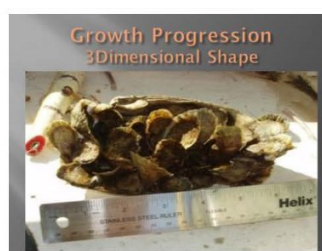
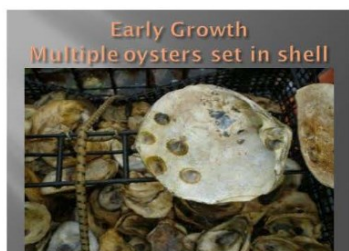
The Piscataqua River is an ocean-dominated system extending from the Gulf of Maine at Portsmouth Harbor and forming the border of New Hampshire and Maine to the fork of its tributaries, the Salmon Falls and Cocheco rivers. These rivers, several small creeks and their tributaries and ocean water from the Gulf of Maine create the Great Bay estuarine hydrosystem.

There are five very different water-dominated habitats that make up the Great Bay. In order of abundance they are: eelgrass meadows, mudflats, salt marsh, channel bottom, and rocky intertidal. These habitats are home to 162 bird, fish and plant species (23 of which are threatened or endangered), countless invertebrate species and even the occasional harbor seal.

The Gulf of Maine is also one of the world's most productive water bodies. Historically, it has been a source of livelihood for tens of thousands of commercial fishermen. More recently, recreation- and tourism-related employment has been recognized as a major contributor to the region's economy.



### Oyster Reef Restoration Process



Areas are covered with cultch (shell) prior to the deployment of the grown out oysters. The grown out oysters are placed on the cultch to create the three dimensional habitat.





## Success Stories:

### New England Cottontail Habitat Planting, Durham, NH April 25, 2015

*By Phil Brown, NH Audubon, and Haley Andreozzi, UNH Cooperative Extension*

NH Audubon and The Stewardship Network: New England, based at UNH Cooperative Extension are doing their part to help the New England Cottontail at the 115-acre Smith Sisters Wildlife Sanctuary in Durham and Newmarket, NH. With the help of volunteers, they planted approximately 5,000 native shrubs of 10 different species along a formerly forested section of Follett's Brook in anticipation of improved habitat for the rabbit, as well



as a suite of shrubland birds. American woodcock, blue-winged warbler, chestnut-sided warbler, Eastern towhee, and brown thrasher are just some of the many avian beneficiaries of an added habitat component in this mosaic of fields and forests. This management, along with invasive species control and a variety of other practices, has been made possible through stewardship funding provided by the Natural Resources Conservation Service (NRCS).

*The Stewardship Network: New England*, mobilizes volunteers to care for and study ecosystems, lands and waters in and around New Hampshire. With over 80 partner organizations contributing volunteer opportuni-

ties to the Network's online calendar, there's no shortage of options for people looking to volunteer for the environment in a way that fits their interests and schedules. This spring, The Stewardship Network: New England worked with NH Audubon and the Natural Resources Conservation Service (NRCS) to recruit volunteers to plant native shrubs for New England cottontail at the Smith Sisters Wildlife Sanctuary.



Using shovels, planting bars, and plenty of elbow grease, volunteers planted native shrubs to help New England cottontail rabbits, a state-endangered species here in New Hampshire, as well as over 100 other wildlife species that use shrubland habitat. It was important work that could only be accomplished with the help of volunteers. For the volunteers, it was a great opportunity to get outside, learn about shrubland habitat, and do good work for the benefit of an endangered wildlife species here in New Hampshire.

## *Success Stories:*

**New England Cottontail Habitat Planting, Durham, NH April 25, 2015**





## Success Stories:

### New England Cottontail Event to Celebrate the Department of Interior's Decision Not to List the Species as Endangered — September 11, 2015



*From information included in a press release written by Sarah Haymaker with added information by Betty Anderson*

At an event held on September 11th, U.S. Secretary of the Interior Sally Jewell announced that a public-private partnership uniting foresters, farmers, birdwatchers, biologists, hunters and other conservationists has kept the New England Cottontail (NEC) from needing protection under the Endangered Species Act. The partnership has also initiated on-the-ground conservation efforts for the NEC that will benefit the rabbit into the future. Jewell was joined by U.S. Senator Jeanne Shaheen, U.S. Fish and Wildlife Service Director Dan Ashe, U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Chief Jason Weller, NRCS State Conservationists Christine Clarke and Juan Hernandez, NRCS Acting State Conservationist Jade Nield, and other conservation partners from the US Fish and Wildlife Service, NH Fish and Game, the Wildlife Management Institute, the NH Association of Conservation Districts, The Trust for Public Lands, the Southeast Land Trust of NH, UNH Cooperative Extension, and the Towns of Durham and Rollinsford.

The celebratory event was held in Dover, NH, where the NRCS has worked with landowners to establish NEC habitat. “Thanks to the dedication of many partners, we can now say that future generations of Americans will know the cottontail – and not just through a character in children’s literature,” said Secretary Jewell. “This is a great Endangered Species Act success story of how proactive conservation across a landscape can benefit not only the cottontail, but other wildlife, and people who rely on healthy New England forests.”



NRCS NH State Conservationist Rick Ellsmore (currently on assignment in Iowa) and NRCS Environmental Liaison Don Keirstead spearheaded the NRCS effort to restore NEC habitat in New Hampshire. Also important to the NRCS effort in the state was Dan Wright, former District Conservationist, Keri Neal, current District Conservationist, Matt Larkin, Soil Conservationist, Vicki Stafford, District Manager of the Strafford County Conservation District, and Len Lord, District Manager of the Rockingham County Conservation District.

## Success Stories:

### New England Cottontail Event to Celebrate the Department of Interior's Decision Not to List the Species as Endangered — September 11, 2015 (Continued)

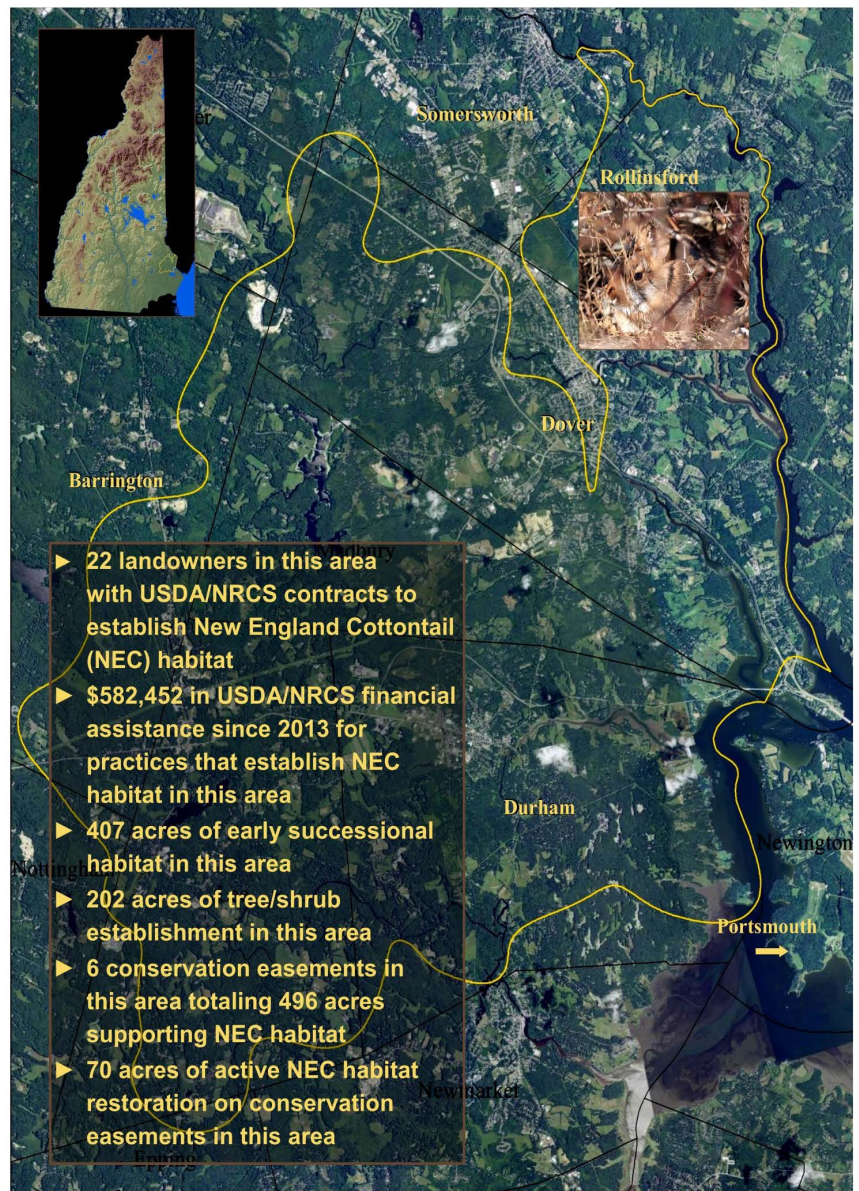


In the Dover, NH area alone, NRCS has worked with 22 landowners, spent \$582,452 of financial assistance since 2013 to establish 609 acres of NEC habitat, and purchased six conservation easements totaling 496 acres supporting NEC habitat.

The NEC is the only rabbit native to New England and was classified as a candidate for Endangered Species Act protection beginning in 2006. Recognizing both the urgency and the opportunity to conserve the species, in 2008, state and federal biologists began a coordinated conservation effort that has fueled the NEC's path to recovery. That effort includes the development of a range-wide, science-based conservation strategy that has targeted, ambitious, but achievable goals.

Great strides have been made in making the strategy a success. Approximately 10,500 NECs now live in a priority area, which brings the recovery effort three-quarters of the way towards the goal of 13,500 NEC in healthy, young forest landscapes by 2030. Habitat projects are also producing increased numbers of NEC.

"This initiative is a model for combining science, resources and public-private collaboration to advance the conservation of a species previously destined for federal protection," said Service Director Dan Ashe. "This is a moment for us all to feel proud – proud of the partnerships we forged among state and federal governments, landowners, conservation organizations, tribes and businesses; and proud of the successes those efforts brought. It's a terrific day for conservation and a terrific day for the NEC."





## *Success Stories:*

### **New England Cottontail Event to Celebrate the Department of Interior's Decision not to List the Species as Endangered — September 11, 2015 (Continued)**



Voluntary restoration efforts on private lands played a critical role in increasing and connecting early successional habitat. In the past three years, the U.S. Department of Agriculture's Natural Resources Conservation Service has worked with owners and managers of private lands to restore more than 4,400 acres of habitat by removing trees and invasive species, planting native shrubs and creating brush piles. "The decision not to list the New England Cottontail shows that wildlife and working lands cannot just coexist, but thrive in harmony," Chief Weller said. "USDA is proud of the private landowners who stepped forward to make proactive conservation improvements on their land, restoring critical habitat for this unique rabbit."

The Service's decision makes use of a policy guiding the agency in evaluating ongoing or future conservation activities. The evaluation resulted in high certainty that the NEC Conservation Strategy would be carried out and would effectively recover the species – without the need for the formal protections of the Endangered Species Act. The successful and on-going conservation of the NEC illustrates the flexibilities inherent in the Endangered Species Act, and the Service's commitment to science-based, results-driven collaboration that engages landowners and other partners in voluntary conservation efforts.

"Restoring the habitat of the New England Cottontail has been a tremendous team effort," Senator Shaheen said. "It serves as a good example of how development and conservation can make progress at the same time. Bringing back the Cottontail population from the brink is not only important for New England's heritage and ecosystem, but also for regional development that would have been adversely affected were the Cottontail to have been moved to the Endangered Species List."

After the 1960s, the NEC's range shrank 86 percent as young forest habitat disappeared due to development. Remaining forests matured into older and taller woods that provided little ground-level shelter and food for cottontails. Today, this once-common native species survives in five isolated populations across Connecticut, Maine, Massachusetts, New Hampshire, New York and Rhode Island. Captive rearing and release has also been critical to ensuring the rabbit's long-term survival. For the first time in history, more than 130 New England cottontails were successfully bred and raised in captivity in several locations. "Our work is not finished," said the Service's Northeast Regional Director Wendi Weber. "We and our partners are committed to seeing this initiative through. We're still seeking help from landowners willing to make and maintain young forest and shrubland habitat. In most places, this type of habitat will depend on our careful and ongoing management."

The restoration effort has created and improved young forest habitat relied upon by at least 65 other species, including woodcock, bobcats, snowshoe hares, a broad range of songbirds, box turtles and frosted elfin butterflies. The initiative has united dozens of partners across the species' range, from several state Audubon chapters to farmers and the National Wild Turkey Federation, all seeking to preserve open space, benefit native wildlife, and restore balance in New England's forests. For additional information about the New England cottontail visit <http://www.fws.gov/Northeast/newenglandcottontail/index.html>.

The Endangered Species Act is one of the world's most important and successful conservation laws. Since it was enacted by Congress in 1973, the ESA has prevented the extinction of more than 99 percent of the species it protects. Additionally, dozens of species have been delisted due to recovery, including the bald eagle, American alligator and peregrine falcon. Others, such as the whooping crane and the California condor, have been pulled back from the edge of extinction.

The decision was published in the Federal Register on September 15, 2015.

[Download "New England Cottontail Status Report." \(PDF, 961KB\)](#)

## ***Success Stories:***

**New England Cottontail Event to Celebrate the Department of Interior's  
Decision not to List the Species as Endangered — September 11, 2015 (Continued)**





## *Success Stories:*

### **NRCS, USFS, and UNH Staff Receive National Award for Conservation Efforts**



Tom Wagner, US Forest Service Forest Supervisor (left) and Luis Hernandez, Acting Director of the NRCS Soil Science Division (right) with award recipients: Robert Long, Jessica Philippe, Roger DeKett, and Martha Stuart from the NRCS, Thomas Lee of UNH, Scott Bailey, Andy Colter, and Erica Roberts of the US Forest Service, (not pictured: Michael Palace and Mark Ducey of UNH, and Gregory Nowacki of the USFS).

If you ask any New Hampshire native to list their favorite NH destination, The White Mountain National Forest will likely top their list. Making sure this gem retains its natural beauty and resources is a priority of the United States Forest Service (USFS), the Natural Resources Conservation Service (NRCS), and the University of New Hampshire (UNH) who joined together to pool their limited resources to meet critical soil and ecological site inventory goals to increase our understanding of important forest ecosystems and improve forest management on federal and private lands. This partnership of soil scientists was recognized today with the “Two Chiefs Award” for their coordinated approach to identifying and recording natural resources and soil types in the White Mountain National Forest by developing a way to better read the landscape using new technology to improve data collection efficiency and accuracy. The Two Chiefs Award, bestowed by the Chiefs of the NRCS and the USFS, annually honors groups and individuals for outstanding efforts in conservation and forest stewardship.

## NRCS, USFS, and UNH Staff Receive National Award for Conservation Efforts (Continued)



White Mountains by Joe Homer

The White Mountain National Forest, Eastern Regional Office, and Northern Research Station of the USFS, the St. Johnsbury, VT NRCS Major Land Resource Area (MLRA) office, and UNH established this partnership in 2011 to increase the understanding of soil-site-vegetation relations in the White Mountains with a collective goal of producing Terrestrial Ecological Units (TEUs) and Ecological Site Descriptions (ESDs). These products provide important land capability information for developing and executing land management plans and component projects.

This novel partnership promoted the use and validation of cutting-edge technologies for mapping TEUs/ESDs with new tools consisting of acquiring high-resolution Light Detection and Ranging (LiDAR) images and the application of NRCS's Soil Inference Engine (SIE) for mapping. The project is currently on-going and is concentrated in a 20,000-acre watershed as the test area. This watershed covers almost the full range of soil parent material, elevation and nutrient gradients of the forest. Approximately 200 soil-site-vegetation test plots were randomly assigned based on environmental conditions and completed over two field seasons in 2013 and 2014.

This project also provided training and career developments opportunities for soil scientists and ecologists, including four graduating students, a Forest Service intern, and a number of contractors along with the transfer of information to other research scientists to foster learning and additional proposals. This remarkable partnership lays the groundwork for future TEU/ESD projects across the Nation.



Waterfall in White Mountain National Forest by Don Keirstead



## United States Department of Agriculture

### *Success Stories:*

#### **Governor Maggie Hassan, NRCS Help US Forest Service Celebrate The Renovation and Re-opening of the Lower Falls Recreation Area**



July 10th, Albany, NH

Today the US Forest Service held an event to celebrate the renovations and re-opening of the Lower Falls Recreation area along the Swift River that runs along the scenic Kancamagus Highway in the White Mountain National Forest. Governor Maggie Hassan congratulated the USDA for its efforts to restore the site and keep it open to visitors who have enjoyed the natural scenery, water slides, and pools. Major funding for the project came from USDA's multi-year Water Quality Initiative Partnership between the USDA Forest Service and the USDA Natural Resources Conservation Service which has committed more than a million dollars in New Hampshire to improve water quality.

The site had been severely degraded by too many people trying to use the formerly pristine recreation area. Trees were dying and people were getting hurt. The project installed a new trail and a viewing platform, as well as enlarged the parking area and rebuilt a vintage kiosk. "People don't have to stand on a very slippery rock in high water," forest supervisor Tom Wagner said. "They can safely be up there and get a beautiful picture of the falls. It's our most popular day-use area in the forest. We get 5 to 6 million people per year, not just at this site, but for the forest, and those people stop here at some point during their visit."

The NRCS and Forest Service are working to improve the health and resiliency of forest ecosystems where public and private land meet across New Hampshire through conservation practices and conservation easements. This partnership improves drinking water quality for NH communities, as well as increases community support for private and public land conservation and enhances the economy through healthy and productive forests and farms.

NH has the fastest growing population in New England with three of the top four watersheds in the country projected to experience the most change in water quality as a result of increasing housing density on private forest lands. NH also ranks second in the country for the percentage of people served by private wells, many of which are experiencing water quality issues related to development, forestry activities, and agriculture. These issues have worsened due to the increased frequency and intensity of extreme events like Hurricanes Irene and Sandy.

## *Success Stories:*

### **Governor Maggie Hassan, NRCS Help US Forest Service Celebrate The Renovation and Re-opening of the Lower Falls Recreation Area**





## United States Department of Agriculture



The Natural Resources Conservation Service  
[www.nh.nrcs.usda.gov](http://www.nh.nrcs.usda.gov)